

MVE series

EtherNet/IP

FIELD BUS SYSTEM

Output Device

Valve



MVSC-220



MVSY-100

Others

Relay
buzzer
Indicator light



MVSP-156

Input Device

Switch



Pressure Switch



Flow rate Switch

Others

Proximate Sensor
Photoelectric Switch
Limit Switch



Sensing Switch
(For cylinder)

Feature

Compatible Protocol

EtherNet/IP

Max. 8 units can be connected of I/O

Wiring time and labor costs can be reduced

Short/Open-circuit detection function

The location of error can be identified.

Counter function

It is possible to ascertain the maintenance period and identify the parts that require maintenance.

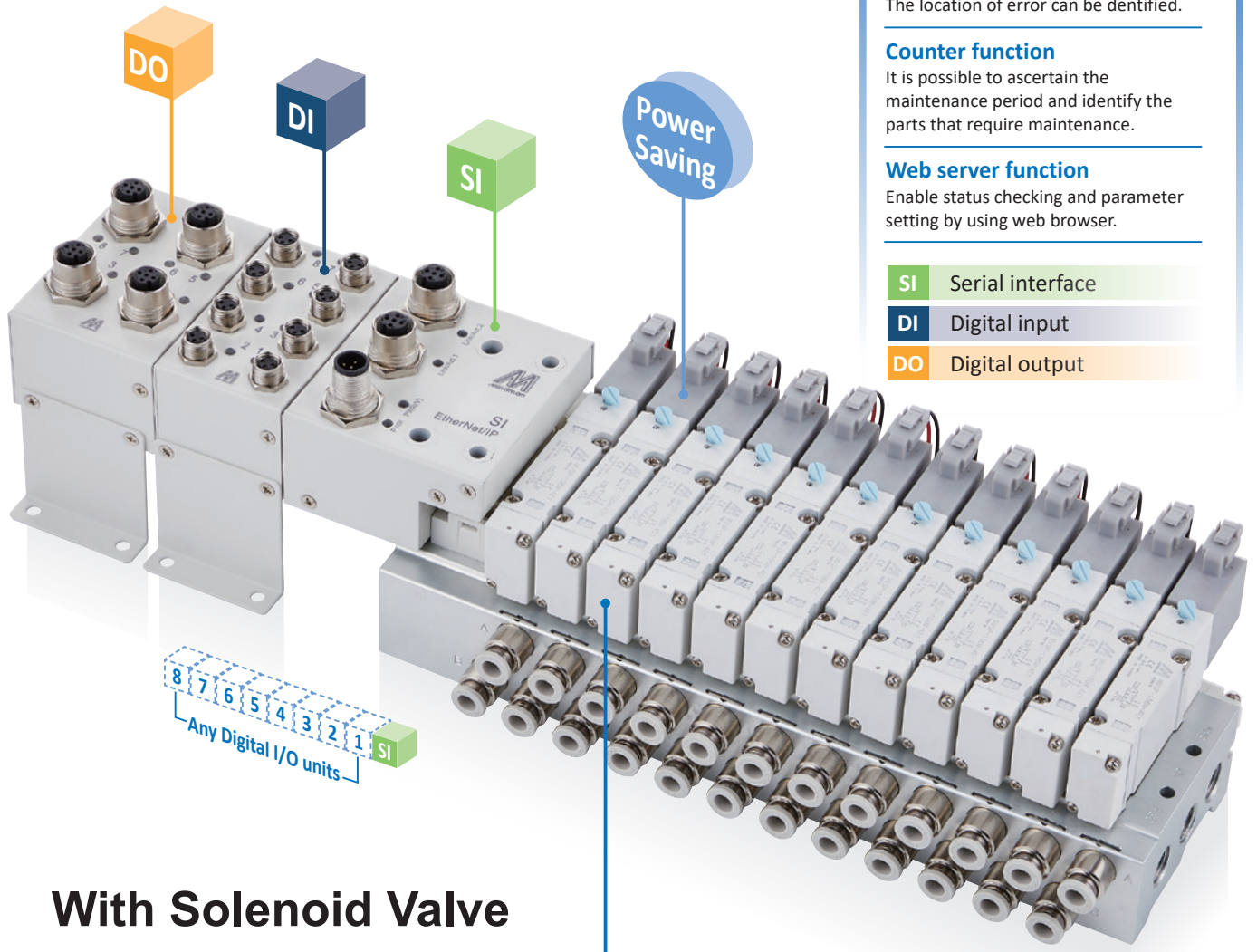
Web server function

Enable status checking and parameter setting by using web browser.

SI Serial interface

DI Digital input

DO Digital output



With Solenoid Valve

MVE-100 series



Valve Series

MVSY-100

Power Consumption

0.55W

With tube fitting

MVE-156 series



MVSY-156

MVSP-156

0.55W

0.95W

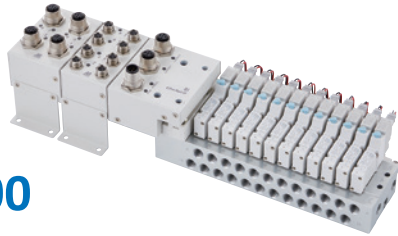
ø4, ø6, ø8 mm

ø4, ø6, ø8 mm

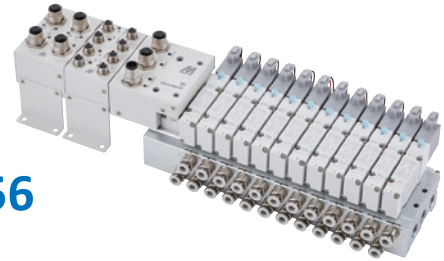
MVE series

EtherNet/IP

FIELD BUS SYSTEM



MVE-100
series

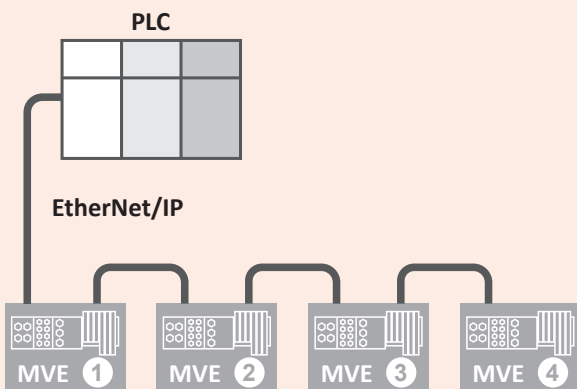


MVE-156
series

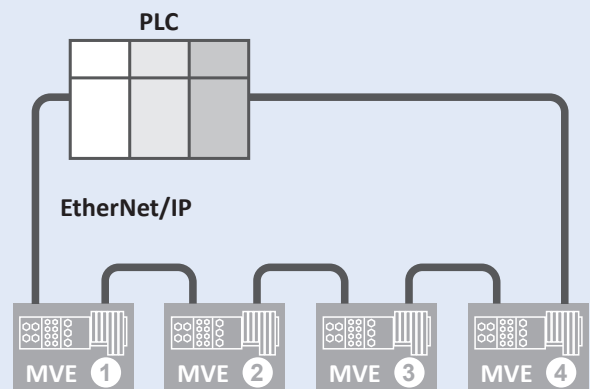
Compatible Topologies

In addition to the general star type, it is available for **linear** and **ring** topologies.

Linear type



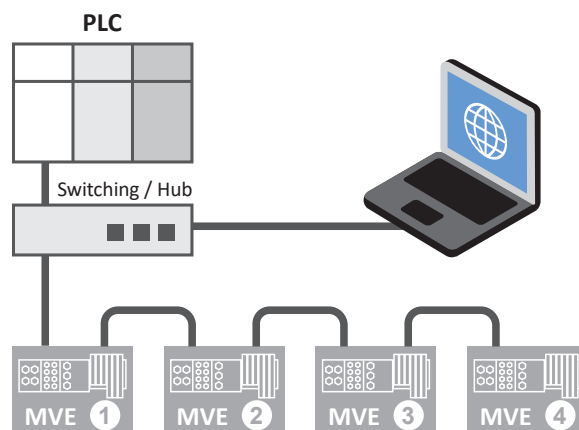
Ring type



Web server function

Using general web browsers, such as IE, Google Chrome which enables status check and parameter settings.

Operation and maintenance of the system can be performed efficiently.



MVE 1 ~ 4
can be accessed
via a web browser.

- Status check
- Parameter setting
- Forced output, etc.

MVE-100 series

FIELDBUS SYSTEM (EtherNet / IP)



Feature

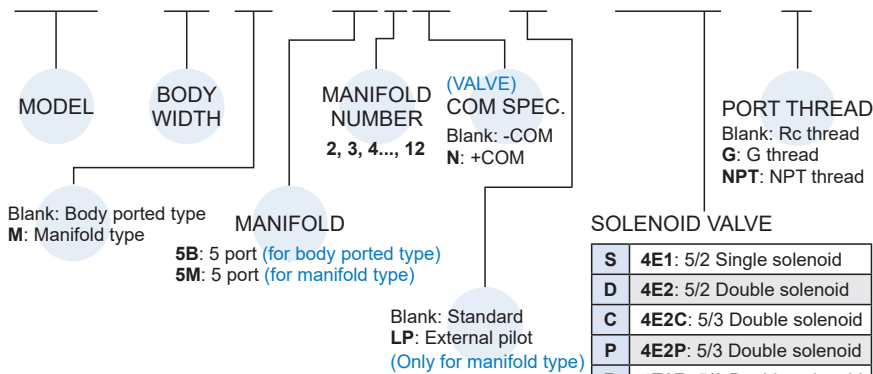
- Wiring time can be reduced.
- Labor cost can be reduced.
- High flexibility for system expansion.
- Circuit protection and self diagnosis function.
- Reduce error of wiring.
- Web server function.

Remark

- Maximum number of stations
4E1: 12 stations
4E2 & 4E2C.P.R: 11 stations
- For MVSU-100 series solenoid valve (Only with LJ plug type)

Order example of fieldbus system

MVE — 100M — 5B4□ — LP — SSSDC — G — EAN6



SI unit (*1)	SI unit output	Total number of DI + DO	
EA: EtherNet/IP (Correspond) (I/O unit cannot be installed without SI)	P: -COM N: +COM (Make sure a match with the common specification of the valve to be used.)	1	1 station
		2	2 stations
		3	3 stations
		4	4 stations
		5	5 stations
		6	6 stations
		7	7 stations
		8	8 stations

Blank: Without SI unit

* The valve arrangement is numbered as the 1st station from the SI side.

*1. This series needs to be used with SI unit for EtherNet/IP communication.

*2. When I/O unit is selected, it is shipped separately, and assembled by user.

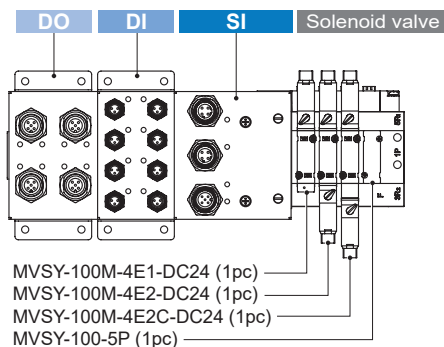
EX

Fieldbus system (Inclusion SI unit and solenoid valve)
MVE-100M-5M4-SDCB-G-EAP2 × 1 set

Digital input unit (DI unit)
MVE-100-DIPA-B1 × 1 set

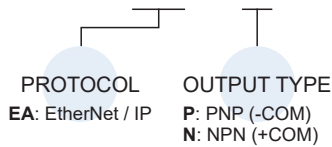
Digital output unit (DO unit)
MVE-100-DOPB-B1 × 1 set

* The valve arrangement is numbered as the 1st station from the SI side.



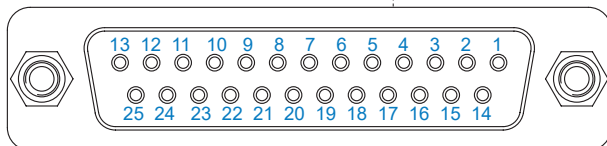
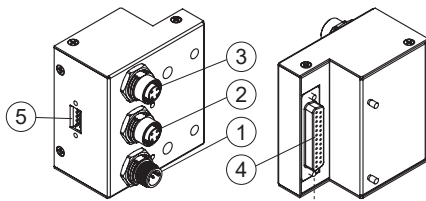
Order example of SI unit

MVE – 100 – SEA – N



Connector

No.	Item	Description
1	Power	M12 B-coded plug
2	EtherNet/IP port1	M12 D-coded socket
3	EtherNet/IP port2	M12 D-coded socket
4	Valve output	25 PIN D-sub
5	Extended I/O	10 pins connector



D-Sub (Female)

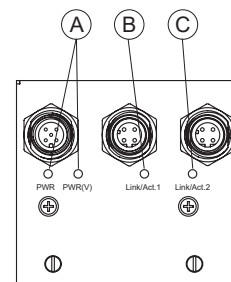
COM	-COM (PNP)	+COM (NPN)
Pin No. 1~12	13	1~12
Description	DC24V+	COM-
Pin No. 14~24	25	14~24
Description	DC24V+	COM-

Specification

Model	SI unit	
Interface	Protocol	Ethernet/IP
	Communication speed	10/100 Mbps
	Configuration file	EDS file
Power supply	Power connector	M12 (5 pins) plug
	Control & input	24VDC class2, 2A
	Output	24VDC class2, 2A
	Consumption	12W
Valve output	Polarity of output	PNP(-com) or NPN(+com)
	Power supply	24VDC Class2, 2A
	Number of outputs	23 outputs
	Connected load	Solenoid valve, MVSY-100 /MVSY-156 / MVSP-156 series, DC24V
	Fail safe	Hold / Off / Setting value
	Protective function	Short circuit protection.
	Environment	Working temperature
	Working humidity	10% ~ 90% RH

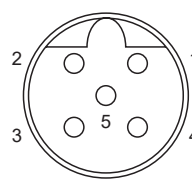
LED Indicator

NO.	LED	Status	Description
A	PWR (Yellow)	ON	Power-ON
		OFF	Power-OFF
B	LAN1 (Green)	Flash	Data Transmission
		OFF	No Link / Activity
		ON	Link / Activity
C	LAN2 (Green)	Flash	Data Transmission
		OFF	No Link / Activity
		ON	Link / Activity

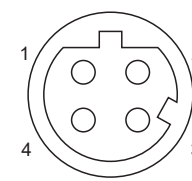


Pin arrangement

Power

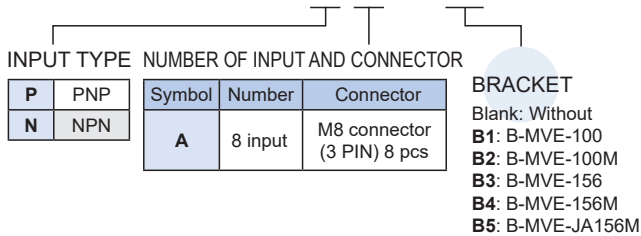
Plug, B-coded	Pin	Signal
	1	24 V (Output)
	2	0 V (Output)
	3	24 V (Control and input)
	4	0 V (Control and input)
	5	FE

Ethernet / IP

Socket, D-coded	Pin	Signal
	1	TX +
	2	RX+
	3	TX-
	4	RX-

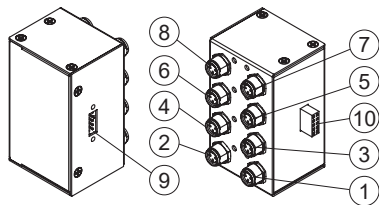
Order example of DI digital input unit

MVE – 100 – DI P A – B1



Connector

No.	Item	Description
1	DI 0	M8, 3PIN socket (Female)
2	DI 1	
3	DI 2	
4	DI 3	
5	DI 4	
6	DI 5	
7	DI 6	
8	DI 7	
9	IOM Interface	10PIN connector (Male)
10	IOM Interface	10PIN connector (Female)



Pin arrangement

Socket	Pin	Signal
	1	24 V (Control and input)
	3	0 V (Control and input)
	4	Input

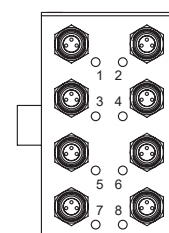
Specification

Model	DI unit	
Input type	PNP or NPN	
Input connector	M8 (3PIN) socket	
Number of inputs	8 input (1 input / connector)	
Sensor supplied voltage	DC24V	
Maximum sensor supplied current	0.25A / Connector & 2A / Unit	
Rated input current	9mA	
ON voltage	≥ 17V *	
OFF voltage	≤ 5V *	
Feature	Short-Circuit Detection & Open-Circuit Detection	
Power	Power supply voltage (control and input) DC24V, Class2, 2A	
Environment	Working temperature	-10°C ~ +50°C
	Storage temperature	-20°C ~ +60°C
	Working humidity	35% ~ 85% RH
	Isolation	500VAC, 10MΩ

* At NPN input, between the pin for input terminal and supplied voltage of +24V.
* At PNP input, between the pin for input terminal and supplied voltage of 0V.

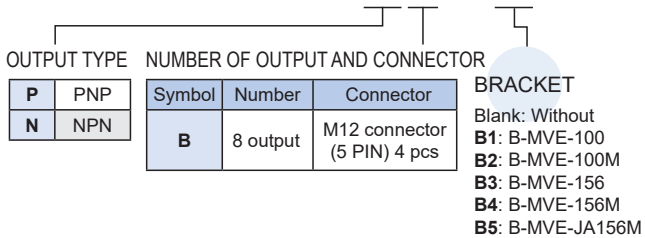
LED Indicator

NO.	LED	Status	Description
1	DI 0	ON	Input device is ON
		OFF	Input device is OFF
2	DI 1	ON	Input device is ON
		OFF	Input device is OFF
3	DI 2	ON	Input device is ON
		OFF	Input device is OFF
4	DI 3	ON	Input device is ON
		OFF	Input device is OFF
5	DI 4	ON	Input device is ON
		OFF	Input device is OFF
6	DI 5	ON	Input device is ON
		OFF	Input device is OFF
7	DI 6	ON	Input device is ON
		OFF	Input device is OFF
8	DI 7	ON	Input device is ON
		OFF	Input device is OFF



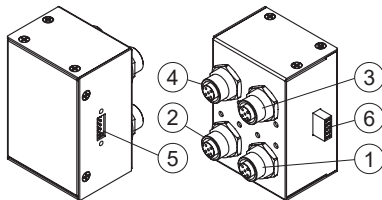
Order example of DO digital output unit

MVE – 100 – DO P B – B1



Connector

No.	Item	Description
1	DO 0, DO 1	M12, 5PIN socket (Female)
2	DO 2, DO 3	
3	DO 4, DO 5	
4	DO 6, DO 7	
5	IOM Interface	10PIN connector (Male)
6	IOM Interface	10PIN connector (Female)



Pin arrangement

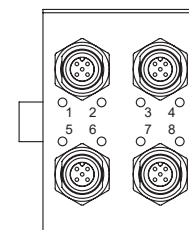
Socket, A-coded	Pin	Signal	
		PNP	NPN
	1	NC	24 V (Output)
	2	Output 2	Output 2
	3	0 V (Output)	NC
	4	Output1	Output1
	5	FE	FE

Specification

Model	DO unit	
Output type	PNP or NPN	
Output connector	M12 (5PIN) socket	
Number of outputs	8 output (2 output / connector)	
Rated load voltage	DC24V	
Maximum load current	0.5A / Connector & 2A / Unit	
Feature	Short-Circuit Detection & Open-Circuit Detection	
Power	Power supply voltage (output) DC24V, Class2, 2A	
Environment	Working temperature	-10°C ~ +50°C
	Storage temperature	-20°C ~ +60°C
	Working humidity	35% ~ 85% RH
	Isolation	500VAC, 10MΩ

LED Indicator

NO.	LED	Status	Description
1	DO 0	ON	DO Output
		OFF	No DO Output
2	DO 1	ON	DO Output
		OFF	No DO Output
3	DO 2	ON	DO Output
		OFF	No DO Output
4	DO 3	ON	DO Output
		OFF	No DO Output
5	DO 4	ON	DO Output
		OFF	No DO Output
6	DO 5	ON	DO Output
		OFF	No DO Output
7	DO 6	ON	DO Output
		OFF	No DO Output
8	DO 7	ON	DO Output
		OFF	No DO Output

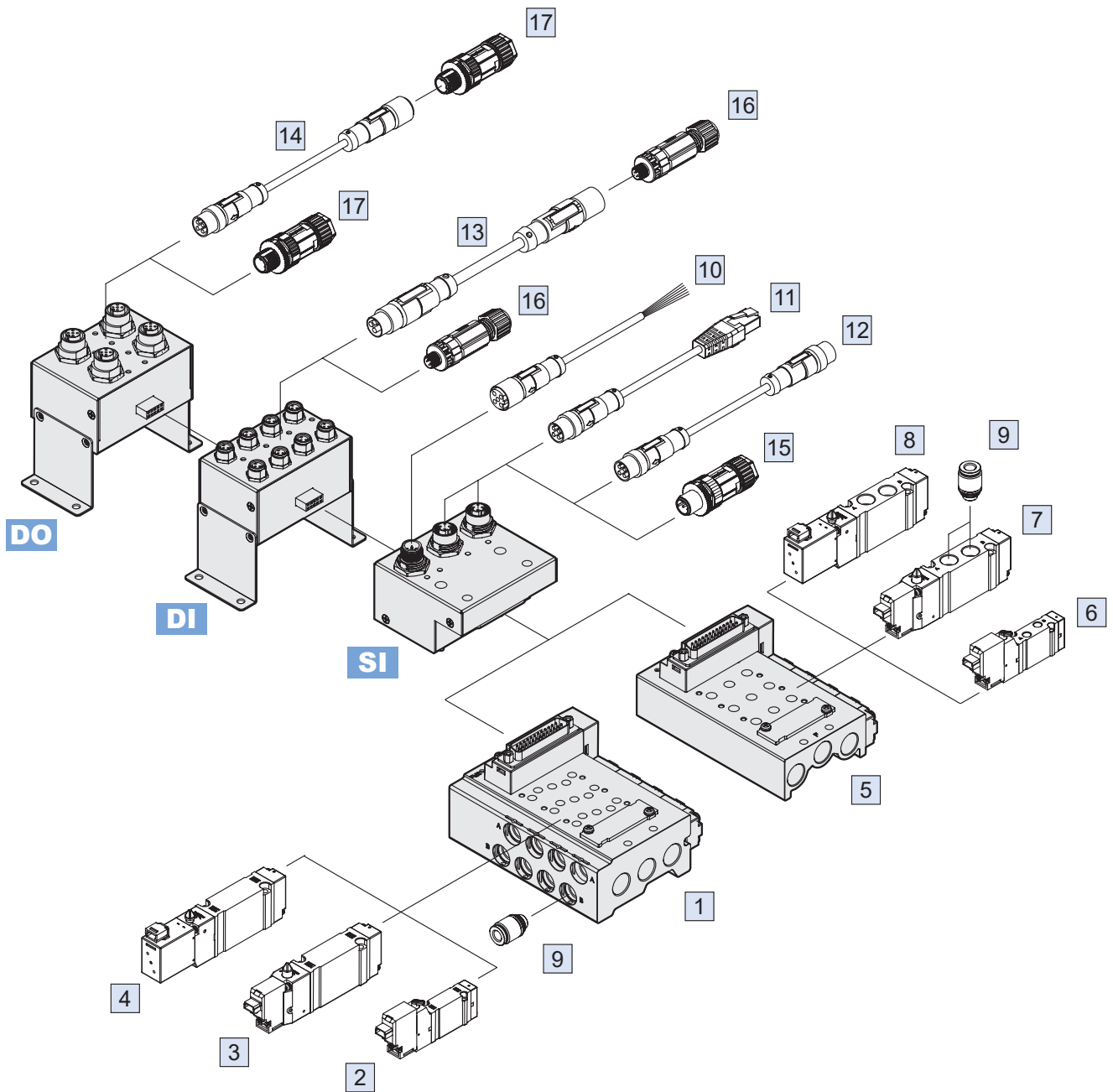


MVE-100 / 156 Valve / Accessories

FIELD BUS SYSTEM (EtherNet / IP)



mindman



No.	Device	Page
1	Manifold (manifold type)	-
2	Solenoid valve MVSY-100M	1-67
3	Solenoid valve MVSY-156M	1-71
4	Solenoid valve MVSP-156M	1-58
5	Manifold (body ported type)	-
6	Solenoid valve MVSY-100	1-67
7	Solenoid valve MVSY-156	1-71
8	Solenoid valve MVSP-156	1-58
9	Tube fitting (ø4,ø6,ø8) (*1)	-

No.	Device	Page
10	Power supply cable M125R-WB*	6-14
11	Cable with connector M124R-RJD*	6-16
12	Cable with connector M124R-MD*	6-16
13	Cable with connector M83R-F*	6-13
14	Cable with connector M124R-FA*	6-15
15	Connector M124C-MD	6-18
16	Connector M83C-M	6-17
17	Connector M124C-MA	6-18

*1. Only for MVE-156 series.